

WHAT IS CLAIMED IS:

1. A process for forming a filter material, comprising the steps of:
  - a) coating a filter particle with a coating comprising a lignosulfonate;
  - b) carbonizing said coating; and
  - c) activating said coating.
2. The process of claim 1, wherein said lignosulfonate is selected from the group consisting of ammonium lignosulfonate, zinc lignosulfonate, calcium lignosulfonate, ferric lignosulfonate, magnesium lignosulfonate, chromium lignosulfonate, manganese lignosulfonate, sodium lignosulfonate, copper lignosulfonate, and mixtures thereof.
3. The process of claim 1, wherein the step of coating said filter particle comprises coating only a portion of said filter particle.
4. The process of claim 1, wherein said filter particle comprises a glass fiber.
5. The process of claim 1, wherein said filter particle comprises a screen, a ceramic fiber, a woven, a non-woven, or mixtures thereof.
6. The process of claim 1, further comprising the step of drying said coating.
7. The process of claim 1, wherein the coating add-on before carbonization is between about 0.5% and about 97%.
8. The process of claim 1, wherein the carbon add-on in the carbonized coating is between about 0.2% and about 95%.
9. The process of claim 1, wherein the carbon add-on in the activated coating is

between about 0.1% and about 85%.

10. The process of claim 1, wherein the temperature during said step of carbonization is between about 500°C and about 1000°C.
11. The process of claim 1, wherein the temperature during said step of activation is between about 550°C and about 1300°C.
12. The process of claim 1, wherein the BET surface area of said filter particle after the activation step is between about 500 m<sup>2</sup>/g and about 3000 m<sup>2</sup>/g.
13. The process of claim 1, wherein the sum of the mesopore and macropore volumes of said filter particle is between about 0.2 mL/g and about 2.2 mL/g.
14. The process of claim 1, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume is between about 0.3 and about 3.

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